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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,360	07/14/2003	Yechezkal Evan Spero		1359

37268 7590 07/05/2006

YECHEZKAL EVAN SPERO
74 MOSHAV TIFRACH
M. P. HANEGEV, 85102
ISRAEL

EXAMINER	
TRUONG, BAO Q	

ART UNIT	PAPER NUMBER
2875	

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	10/604,360	SPERO, YECHEZKAL EVAN	
	Examiner	Art Unit	
	Bao Q. Truong	2875	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Spero, Yechezkal Evan*.

(2) *Sandra O'Shea*.

(3)*Bao Q. Truong*.

(4)_____.

Date of Interview: *28 June 2006*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☒ Yes e)☐ No.
If Yes, brief description: *A note of 10/604203 was sent for assistnace in claim writting*.

Claim(s) discussed: *NONE*.

Identification of prior art discussed: *NONE*.

Agreement with respect to the claims f)☐ was reached. g)☒ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *After a lengthy of discussion through the detail specification, the examiner could not construct a patentable claim for the applicant* .

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Appl. No.:10/604,203 – Notes for Assistance in Claim Writing Interview

June 28, 2006

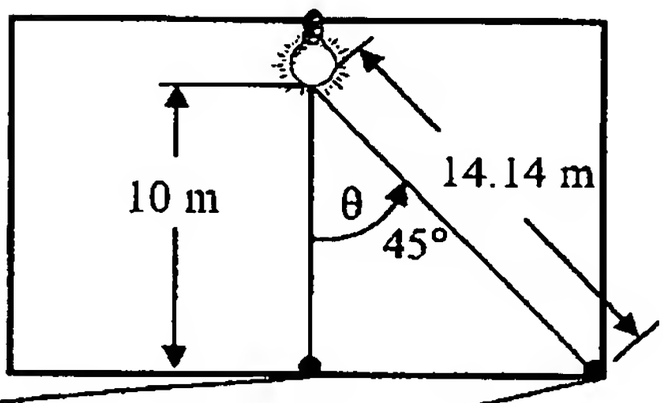
Multiple Light-Source Illuminating System
Inventor: **Yechezkal Evan Spero**
(22) Filed: **July 14, 2003**

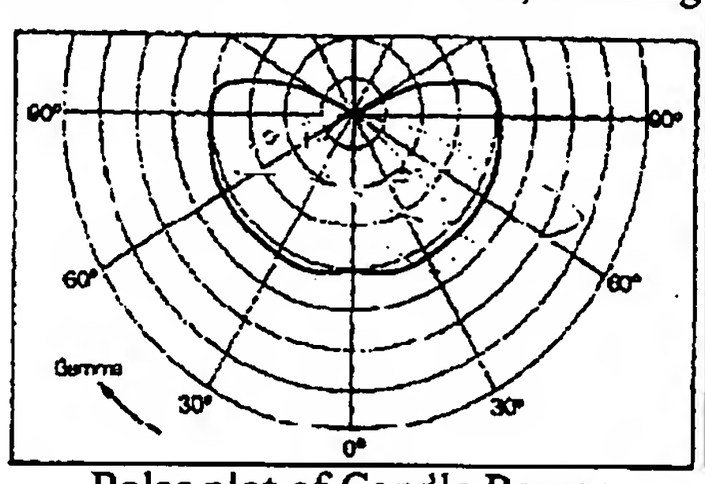
1) **[0022]** ...it is the goal of this disclosure to teach how to construct a luminaire which will radiate photons where needed, exactly in the correct amounts to accomplish visual tasks ...

2) **[0014]** Governing Equation: Lambert's Law

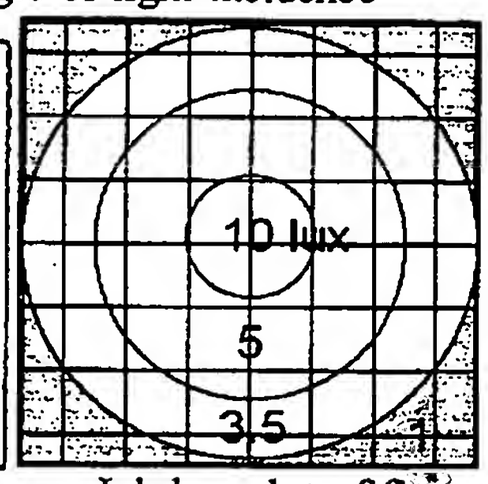
$$E = \frac{I * \cos\theta}{d^2}$$

Where: E=Illuminance in lux or footcandles. I=Luminous intensity in candles. d =Distance between the source and the point of calculation in meters or feet, θ = Angle of light incidence with illuminated surface.





Polar plot of Candle Power

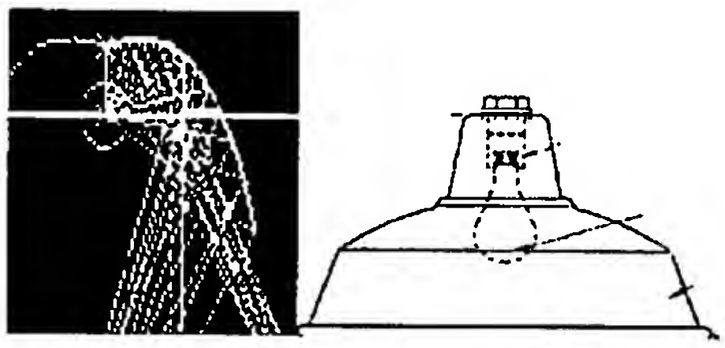


Islolux plot of floor illumination

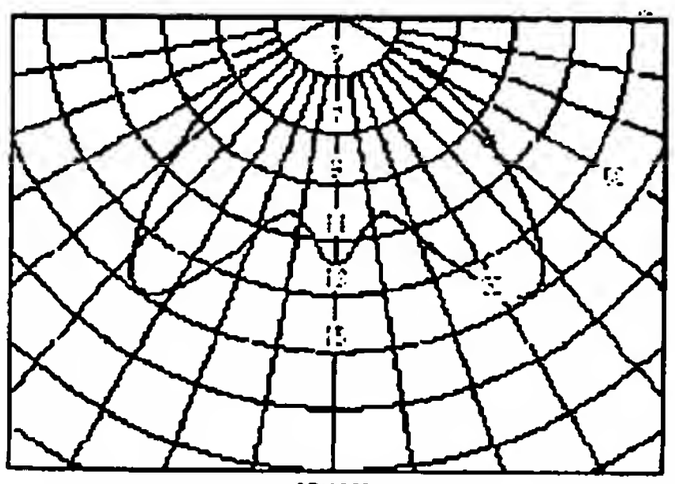
Example: given I = 1000 cd at all angles in 10 m high room

Case I - θ = 0° nadir (directly below) E = 1000 cd * cos (0°) / 10^2 ft^2 = 10 lux

Case II - θ = 45° (corner of the room) E = 1000 cd * 0.707 / (14.14^2 ft^2) = 3.5 lux

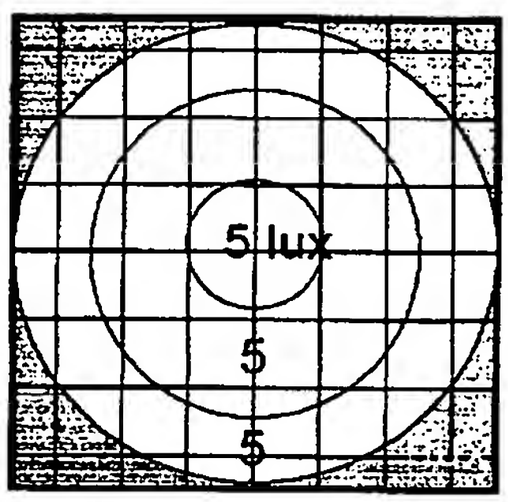


Add a reflector which redirects light distribution more even distribution of the light is effected. Seen polar plot, the light rays have been directed away 0° nadir to higher angles and now the illumination the theoretical isolux diagram is in equal over most floor. However the corners are still poorly illuminated.

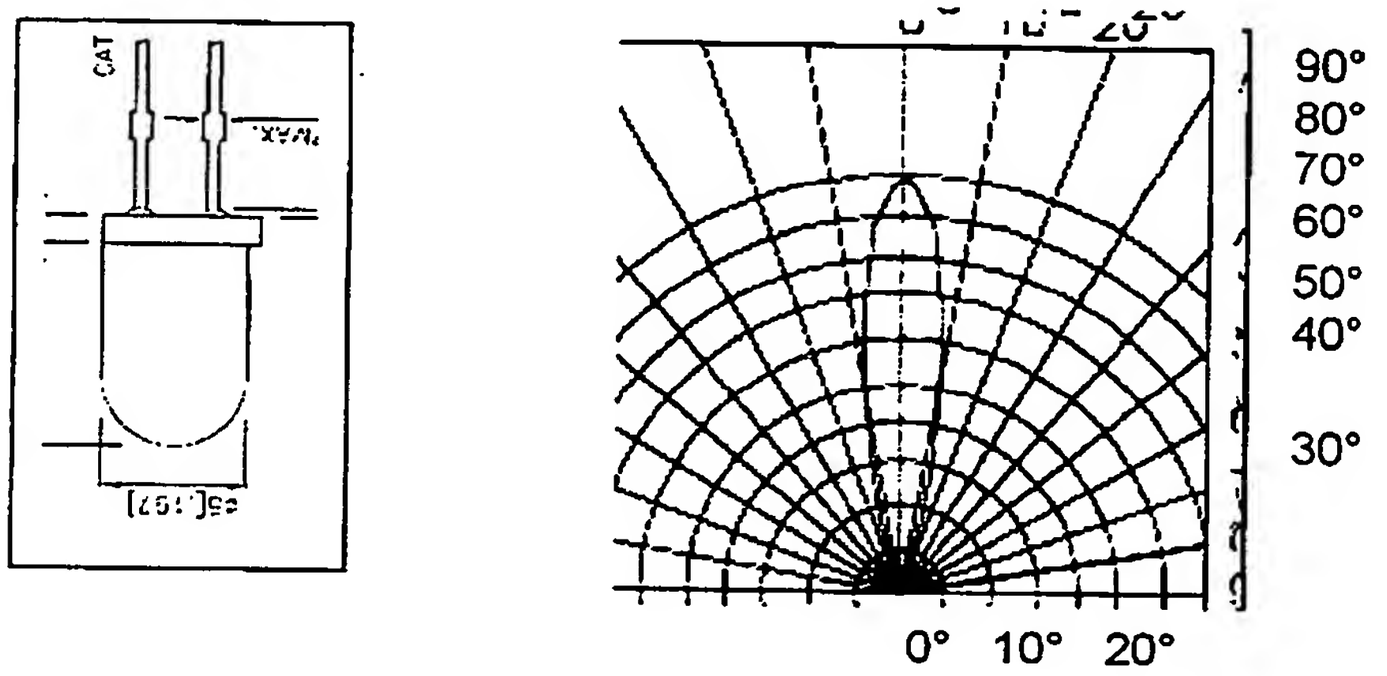


Batwing light distribution ←

gives even illumination over the area. →



A typical through hole LED has an optical system which is capable of redirecting the majority of light to within a specified angle typically 5° through 35°. Used in illumination of a living space the lighting would be uneven and often glaring. Note however the possible high directionality of the light source. This is employed in the present invention.



In Amerson's patent the camera is pointed at an object and the flash will illuminate correctly only a point or object. If a scene or a wall with points not at equal distance from the flash is to be illuminated then the illumination will be unequal. I will show how according to my invention this is to be improved upon.

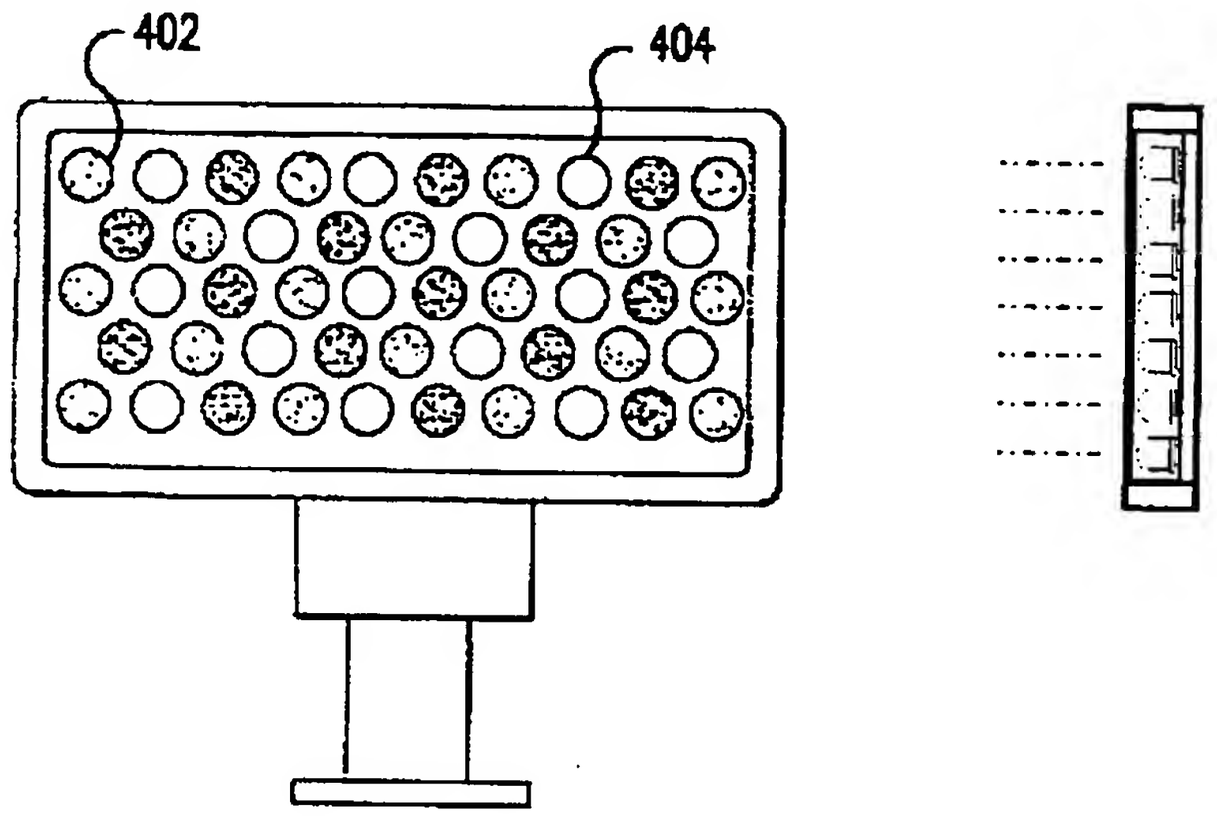


FIG.4

Present Invention

In the present illuminating device invention the light pattern obtained results from "splitting" up the light source, making it digital, so that each photon generated can be addressed to a specific region within the environment to be illuminated. This way the illumination can be exactly what is needed by the lighting application i.e. it is application oriented and not some compromise which wastes light. To do this any of the lighting application details pertinent to the design is determined. Area, visual tasks etc. The coverage area of each LED is calculated and the number of LEDs to cover and area with a specific level of illumination is calculated and the affixation of the LEDs on the luminaire are such that there are sufficient LEDs aimed at each region to be illuminated so that the correct amount of photons reaches each region. An example would be to illuminate a room evenly.

In practice this is done by using more than one, substantially-directional light-sources or groups of light sources which are affixed so that the aiming of one light source is to one region of the area to be illuminated while the aiming of another light source is to a different coverage area. For this to work the position of structure that the LEDs are mounted on must be correlate-able to the geometry of the environment to be illuminated. This is so that the designed coverage area is indeed covered by the light source placed on the structure. So to illuminate a room it could look like one of these apparatus from the patent:

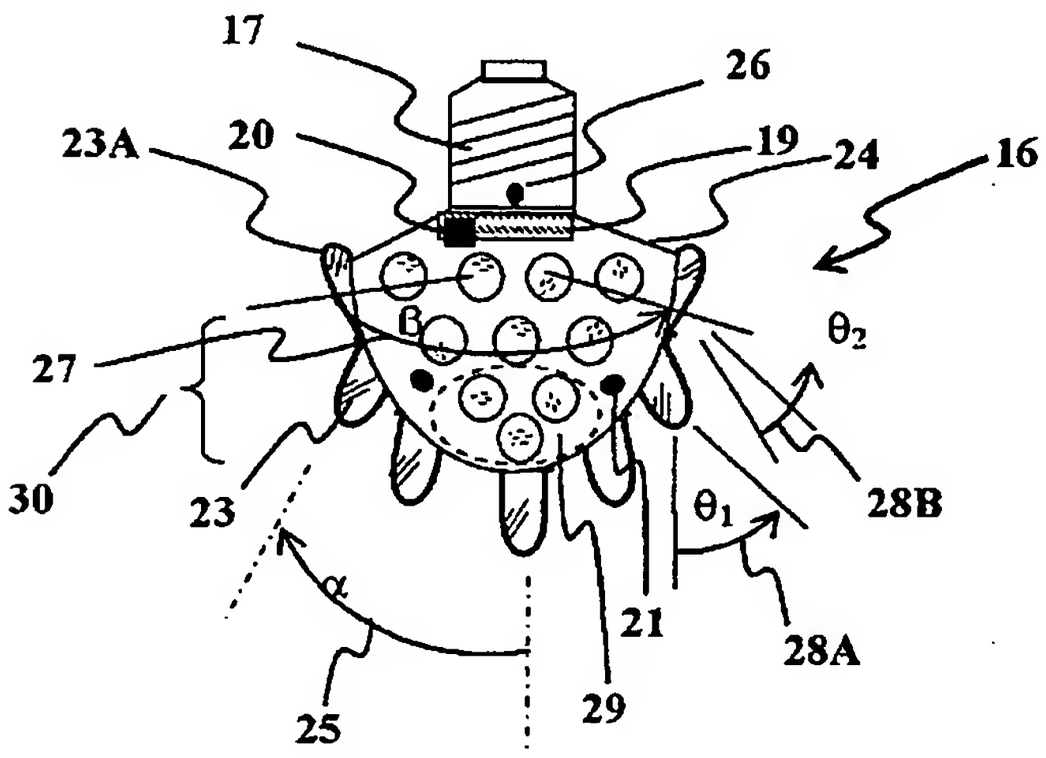


FIG. 2B

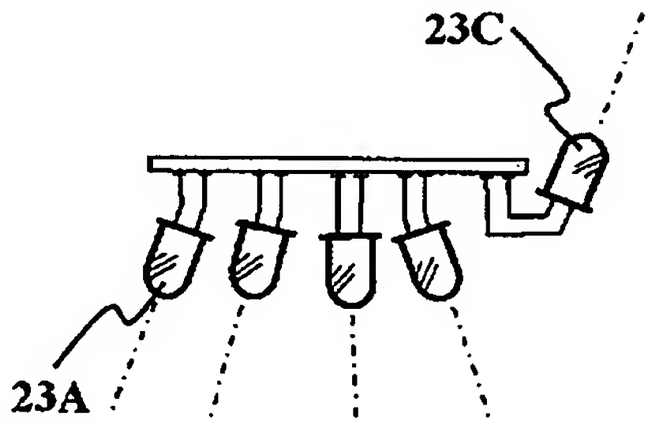
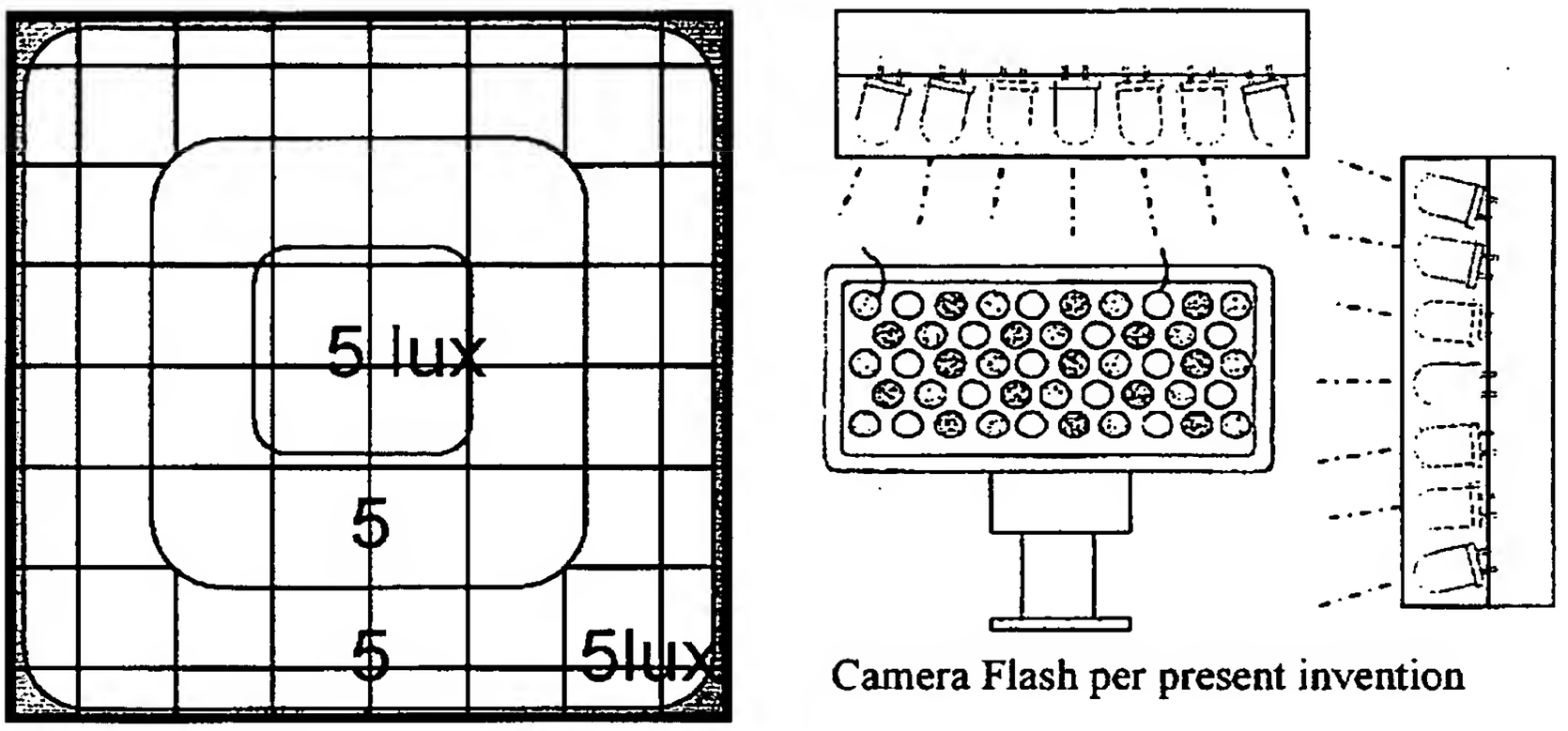


FIG. 2C

The lighting pattern obtained in the room would then be quite exact for the uses within. For example if we wanted even lighting over the floor of the room. The isolux pattern

resulting from the digital multiple light source technology would then be superior to what can be obtained by any prior art lighting technology. Amerson's camera employing the technology would have different aimings so that being truly application oriented it could illuminate an object or a scene such as a wall correctly is the camera is held perpendicular to that wall.



Camera Flash per present invention

Supporting Material from the specification:

[0077] The LED's are mounted flat in rectangular patterns or in concentric circles or on or within holes situated on geometrically curved surfaces such as on a sphere or hemisphere of round, parabolic or elliptical shape according to the desired candle power distribution pattern. The LEDs can be mounted perpendicularly to the geometric fixture surfaces or at any other angle. When mounted perpendicularly the surface geometry is dictated by the light distribution pattern and the LED photometrics. This is the generally assumed design case in this disclosure. However, any geometry is possible with the non-perpendicular mounting of the light sources. A flexible PC board is manufactured in the flat and then "origami" style cutouts are made allowing the PCB to be bent and shaped into the preferred form. LEDs are insertable into holes made in plastic or metal forms to secure the LEDs in the correct location at the correct aiming.

[0080] A pear shaped globe "luminaire" studded with LED's projecting light outward from the surface would give both down-light and up-light with more projection surface towards the down-light side in a typical 1 to 3 recommended ratio. Most buildings, rooms or areas to be illuminated are of a rectangular shape. The LED's on the DLF are concentrated at the 90-degree intervals. This yields a more square lighting pattern to ensure equivalent lighting in all areas of the room including the corners. This is in contrast to the chronic lack of even coverage obtained from the circular light pattern of present day light bulbs or most luminaires. At best these prior-art lamps give a circular light distribution which requires overlapping to ensure complete coverage of the area with the overlap lighting levels in wasteful excess of the requirements. A position oriented MSLS lamp has a greater concentration of LED's aimed at 90 ° intervals so that more light energy is directed into the far-off corners of a room to give an even illumination throughout the rectangular or square shaped area. A DLF is made with square, rectangular and even rounded light distribution if the application requires

[0081] Typically, an incandescent or HID lamp is used in conjunction with a reflector to redirect the light to obtain a desired light pattern where more of the light is directed where it is most useful. A luminaire for area lighting will have a "bat wing" candlepower light distribution pattern, which yields equal horizontal illumination on a surface as it compensates for the "inverse square law"(a function of the cosine of the angle and the distance squared from the source). Generally, such an optical assembly has efficiency less than 80% due to losses on the reflector's surfaces. The MSLS needs no reflector to redistribute the light since each discrete SLS "digit" is aimed such that the candle power intensity varies with angle as is needed to give the optimum illumination on the room work surfaces for a given mounting height. The MSLS lamp distribution is pre-designed according to typical house or office settings. Thus, there is no need for a reflector to redirect the light and its consequent inefficiencies in order to obtain a "bat wing" distribution. The present approach by LED manufacturers is to provide single high output LEDs with optics yielding a "batwing" distribution. These batwings are usually less than optimal and are circular. The "digital" approach of this invention would yield a finer control and thus a more accurate batwing, generating a more even distribution in a rectangular/square vs. circular pattern.

Fig. 2B

[0109] A retrofit MSLS lamp or digital lighting fixture/luminaire 16 ...Discrete packaged light sources, e.g. Solid-state Light Source SLS 23 containing one or more junctions are mounted on the DLF lighting fixture body ... Each SLS with it spectral and distribution characteristic is mounted in a specific location on the surface of the DLF with an angle α , 25 from the nadir. Any angle from the nadir is possible including 180 degrees and the light flux can serve to provide uplight or illuminate a picture on a wall .

[0110] **In** a position oriented lamp arrangement, that is where the socket has a distinct stop point, detent or pin and is mounted substantially oriented to the room or its contents such as a work desk or wall painting, and also the DLF has a specific mounting orientation relative to the socket, then the light distribution can be nonsymmetrical and tailored to the needs of the room. The screw base 17 has a detent or pin 26 that coincides with the stop point on the socket, which is mounted in a specific location radially around the lamp at an angle β , 27 in reference to pin 26 and a design start point on the circumference of body 24. The SLS are placed at an angle β horizontally and vertically angled α to illuminate specific areas and also have their own spatial light distribution angle θ_1 28A. An SLS aimed to illuminate an interior area may have a wide distribution or a distribution without a sharp cutoff 28A while those SLS located at the edge of the area to be illuminated may be of narrow distribution θ_2 28B and have a sharp cutoff. This technique is similar to how a sport playing field is illuminated with multiple floodlights. Floodlights of narrow beam spreads such as a NEMA 2 are used to illuminate at the edge of the illuminated area while wider NEMA 4 beam spreads are used near the center of the playing area. The MSLS lamp will have concentrations of SLS at specific aimings to provide a wide "flood" type distribution to one part of the room and a "spot" type distribution to another such as to a painting on the wall. Each illumination target is at a different light intensity and color temperature or color rendering . .

[0111] In another embodiment SLS, which perform an equivalent to a task light function with a very narrow beam, are combined with SLS performing a general background lighting function in one fixture. While general lighting recommendations in an office call for the provision of 300 to 500 lux over the working plane, specific task lighting, for example where copy work is to be illuminated by auxiliary lighting, 1,000 lux is required. To this end a section 29, containing SLS

on the DLF, provides a narrow beam of higher intensity, to provide added light flux to the working surface. In an alternate embodiment section 29 on the DLF is on a swivel and can be manually adjusted to be aimed at the worktable. In an alternate embodiment ....the MSLS portion of the DLF body 24 is rotatable in relation to the affixing base 17. Such an embodiment also obviates the need for a position oriented socket and base pin 26 .

[0113] In order to assure an even distribution of light from a point source over an area, it is necessary to take the effects of the angle and distance to the illuminated surfaces into account as stated in the inverse square law. Often a "batwing" type of candlepower light distribution is used. In a prior art luminaries the reflector, which concentrates reflected rays in the higher angles, accomplishes this. In a preferred embodiment of the MSLS there are more, or more powerful, SLS over a range 1 aimed at higher angles to increase light flux at those angles in order to maintain an even light distribution. If the lamp is specifically oriented in relation to the room concentrating more light into the distant corners effects a squared distribution pattern, which would fill in the corners of a square room with equivalent illumination. An added amount of SLS are added on the DLF body 24 at 90 degree angles on β , 27 where SLS aimings will push added light into areas corresponding to the "corners". To effect uplight towards the ceiling or for indirect lighting SLS 23A are aimed towards the ceiling such that an optimal utilization of the light is achieved .

[0116] The same light distribution effect based on light source aimings could have been accomplished as in the prior-art, easy to manufacture flat pc-board configuration by simply angling the LEDs 23B from the perpendicular as shown in Fig. 2C. Shown is a side view of a PCB provided with standard 5mm hole-through LEDs. The LEDs are produced with standoffs on the legs such that after soldering automatic machinery can bend the legs so that the LEDs project at the required angle from the nadir to achieve the required photometric pattern. Lead bending as is known in the art also allows for uplight as with LED 23C. Though not as elegant as DLF 16, this easy to manufacture configuration will accomplish much of the sought after light distribution .

YES !nvent

YES Invent
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yspero@netvision.net.il

FAX:

To:	USPTO Sandra O'shea	**From:**	Y. Evan Spero
Fax:	+1 571-273 -2378	**Pages:**	3
Phone:		**Date:**	6/22/2006
Re:	Teleconference: Constructive Assistance	**CC:**	

Application no. 10/604,360

Dear Ms. O'Shea,

This is to confirm the Teleconference with yourself and Mr. Truong on Wednesday the 28th of June at 1:00 PM EDT.

I will be placing the call to (571) 272 -2378.

Attached is the original letter sent asking for the constructive assistance now sent as a Reply to the Office Action of March 16th 2006 per Mr. Truong's instruction. Prior to the meeting I will send drawings to explain language chosen for the claim. If you prefer this in a method other than a fax please let me know.

I appreciate your assistance and patience.

Sincerely yours,

Evan Spero
yspero@netvision.net.il

20040105264

Total Number of pages 036 2
109,179!

In the United States Patent and Trademark Office

Application/CN: 10/604,360 June 22, 2006
Application Filed: 14 July 2003
Applicant: Spero, Yechezkal Evan
Title: Multiple Light-Source Illuminating System
Examiner: Bao Q. Truong
Art Unit: 2875

Reply to Office Action dated Mar. 16, 06
Remarks

Commissioner for Patents
Washington DC

Sir:

The application is being prosecuted by the Applicant pro se

Remarks

Request for Constructive Assistance:

The pro se applicant requests under M.P.E.P. § 2173.02 and §707.07(j) that the examiner should draft one or more claims for the applicant and indicate in his or her action that such claims would be allowed if incorporated in the application by amendment.

As discussed in the interview Tuesday, May 09, 2006, and in the summary letter sent on that date; being that the examiner finds that the application discloses patentable subject matter vis-à-vis Amerson et al. and it is apparent from the claims and applicant's arguments that the claims are intended to be directed to such patentable subject matter, but the claims in their present form cannot be allowed because of defects in form or omission of a limitation, it was agreed that the applicant request the help of the examiner under M.P.E.P. §707.07(j) and per M.P.E.P. § 2173.02.

As stated in § 2173.02 the applicant requests that "the examiner should not stop with a bare objection or rejection of the claims" as in the OA of March 16, 2006. "The examiner's action should be constructive in nature and, when possible, should offer a

definite suggestion for correction". If needed the applicant requests that "the examiner should draft claims for the applicant and indicate in his or her action that such claims would be allowed if incorporated in the application by amendment".
This request is in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

I would recommend that a teleconference between yourself, your supervisor Sandra L O'shea and myself be arranged at the earliest possible date to facilitate the constructive assistance process. My email address is included as usual so that you can contact me without difficulty.

Very respectfully,

Yechezkal Evan Spero
74 Moshav Tifrach
M. P. Hanegev 85102
Israel
Tel: +972-54-440-7280
Fax: +972-8-996-0324
yspero@netvision.net.il

Certificate of Facsimile Transmission:

I certify that on the date below I will fax this communication to Group 2875 of the Patent Office at the following number:

Fax: 571 273-8300

Date : June 22, 2006

Inventor's signature:

Very respectfully,

Yechezkal Evan Spero
+972-54-440-7280
yspero@netvision.net.il